



# North Carolina Department of Transportation

Proposed Urban Loop Pilot  
Prioritization Process- UPDATE  
January 27, 2010

# **Urban Loop Pilot Prioritization Process (DRAFT)**

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- **Background/Why Now - Review**
- **Methodology- Review**
- **Implementation Schedule**
- **Comments Received**
- **Proposed Changes**

# Urban Loop Pilot Prioritization Process (DRAFT)

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- **Objective**
- **Background**
  - Urban Loop Program established by 1989 Highway Trust Fund
    - ◇ Objectives were to Support Statewide Growth and Development and connect to major highways of adjoining States
  - 21<sup>st</sup> Century Transportation Committee
    - ◇ Enhance mobility by completing all urban loops with priorities established based on measurable transparent criteria
- **Why Now?**
  - Challenges Grow Greater
    - ◇ Funding
    - ◇ Construction Costs
    - ◇ Environmental Issues
  - Opportunities Lost
    - ◇ Economic Development

## **Principles of Urban Loop Pilot Prioritization Process (DRAFT)**

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- Projects will support statewide growth and foster economic development
- Selection criteria will be data driven and transparent
- Selection criteria will be consistent with overall Strategic Prioritization Process
- Pilot effort will include Benefit/Cost - Type Methodology
- Pilot effort will be subject to public review and comment
- Secretary of NCDOT will have ability to adjust projects in final rankings.



# Urban Loop Pilot Prioritization Process (DRAFT)

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- **Methodology**

- Benefit Cost – type Approach
- Needs Factors – What are the deficiencies (Congestion/Safety)?
- Benefit Factors- What are the benefits gained?
- Costs- Capital Expenditures remaining to complete the Loop Program
- Priority Ratio - 
$$\frac{\text{Needs Factors Plus Benefit Factors}}{\text{Capital Expenditures}}$$

# Urban Loop Pilot Prioritization Process (DRAFT)

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- **Implementation Schedule**
  - **January 27th** – Workshop/Webinar
  - **February 26th** – Second 60 day comment period ends
  - **March** – Review comments and revise criteria if necessary
  - **March/April** – Work with MPO staffs to review inputs to scoring system
  - **May/June** – Present to BOT and publish results

# **Urban Loop Pilot Prioritization Process (DRAFT)**

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- **Comments Received from 15 Organizations**
  - Generally Positive
  - Certain criterion not relevant
  - Certain criterion needed change
  - Some wanted new criterion
- **Non-committal until results known**

# Urban Loop Pilot Prioritization Process (DRAFT)

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- **Proposed Changes**

- **Initial Criterion**

- Infrastructure Health
- Environmental Readiness
- Air Quality Conformity
- Land Use
- (New)

**Revised Criterion**

Removed

Removed

Removed

Replaced w/Protected Right  
of way

Non-Loop Funding

- **Department commits to work with MPO staff on data inputs**



# Urban Loop Pilot Prioritization Process (DRAFT)

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- **Scoring System Simplified**
- **Needs Factors**
  - Congestion needs 10%
  - Safety needs 5%
- **Benefits Factors**
  - Travel time savings 30%
  - Economic Development 20%
  - Freight Volume 5%
  - Multi-modal 5%
  - Protected Right-of-way 5%
  - Non-Loop Funding 20%
- **Cost**

# Urban Loop Pilot Prioritization Process (DRAFT)

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- **Needs Factors**

- Infrastructure Health factor removed
- **Congestion and Safety factors** retained
  - ◇ Congestion (10%)- V/C ratio plus AADT. (Note: peak hour factor used in V/C ratio).
  - ◇ Safety (5%)- Same as prior- critical crash rates, crash severity, crash density
- Data from NCDOT databases- similar to overall Strategic Prioritization process

# Urban Loop Pilot Prioritization Process (DRAFT)

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- **Benefit Factors**
- **Economic Development** (20%)
  - Department of Commerce Staff
  - DOC Slides Next

# ECONOMIC IMPACT METRICS FOR LOOP PRIORITIZATION



# PRESENTATION OVERVIEW

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- Overview of IMPLAN
  - Third party software used to estimate economic impacts
- Three proposed criteria to prioritize projects
  - Construction Impacts
  - Existing Economic Characteristics
  - Future Impacts
- Questions



Minnesota IMPLAN Group Inc.

# IMPLAN SOFTWARE

- Will be used for **Construction Impacts** and potentially to estimate the **Future Impacts**
- Components of IMPLAN
  - Local input-output models
  - Location and Industry Specific Multipliers
  - Adjustments/Modifications to Model
  - Project results will focus on estimated impacts



# CREATE A COMPLETE MODEL

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1. **Construction Impacts**
2. **Evaluation of Existing Economic Characteristics**
3. **Economic Development Impacts on Potential Future Impacts**

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# **IMPACTS RELATED TO CONSTRUCTION INVESTMENT**

- Construction Impacts will be measured with the input-output program, IMPLAN
  - INPUTS TO MODEL
    - ◇ Construction schedule
    - ◇ Investment schedule
    - ◇ Other Assumptions
  - RESULTS
    - ◇ Employment Impacts

# EMPLOYMENT IMPACTS OF CONSTRUCTION

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- Direct Employment: Employment associated with the project being measured
  - IE: Construction workers hired to build road
- Indirect Employment: Employment within the supply chain that are created as a result of the direct employment
  - IE: Contract labor, business services, etc.
- Induced Employment: Employment created as a result of household spending by the direct and indirect employment
  - IE: Restaurants, retail, services, etc.

# CONSTRUCTION IMPACTS

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## POTENTIAL METRICS

IMPACTS
Total Employment Impacts (Direct, Indirect and Induced)
Total Impact Employment Divided By Project Region Employment
Estimated Number of Re-employed Workers

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# EXISTING ECONOMIC CHARACTERISTICS



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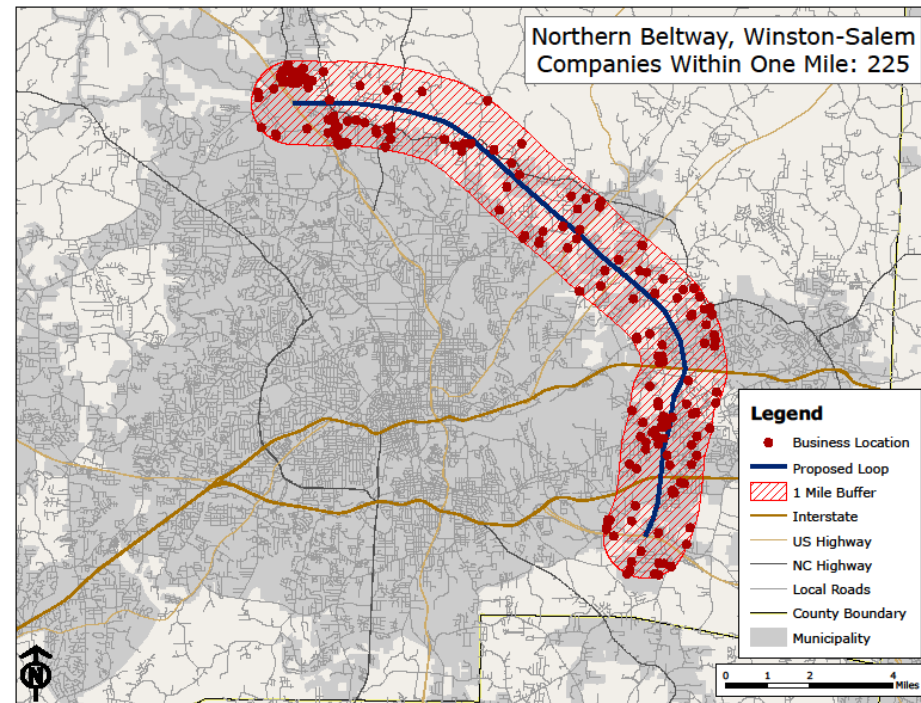
- Different methodology when compared to construction impacts
- Variables and criteria focus on existing employment, population, tourism, business, and industry data
- Regional analysis as well as analysis of immediate project vicinity

# EXISTING CONDITIONS

## Potential Variables

- Establishments (Businesses/companies) in 1-mile Buffer
- Number of Establishments in Forsyth County
- Employment in (Forsyth) County
- Employment in Manufacturing + Distribution + Logistics in (Forsyth) County
- Population in County
- Projected Population Growth
- State and Local Tourism Tax Receipts in County

## Eastern Portion of the Northern Beltway in Winston-Salem



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# **POTENTIAL FUTURE IMPACTS (INTERCHANGE ANALYSIS)**

# IMPACT ON FUTURE BUSINESSES (INTERCHANGE ANALYSIS)

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- Land-Use template based on existing loop interchanges
- Develop model for a “typical interchange”
- Measure employment impacts of potential future interchange with IMPLAN
  - Regional multipliers will differentiate impacts across projects
- Multiply impacts by the number of new interchanges for the loop road

# QUESTIONS

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# **Urban Loop Pilot Prioritization Process (DRAFT)**

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## **Travel Time Savings (30%)**

- Travel Demand Models
- Vehicle hours of travel saved by users
- Points presently proposed assigned based on comparison of one project vs. another project



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## Freight Volume (5%)

- Explosive growth expected
- Diverts traffic from Central Business District
  - ◇ Increases safety
  - ◇ Reduces Congestion
  - ◇ Extends service life of pavements

Points assigned based on forecast year truck volumes from travel demand models.

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- **Multi-modal** (5%)
  - Promotes efficiency in network
  - HOV/HOT, Light rail, bus rapid transit within right of way
  - Connection to other transportation terminal(s)

60 points if HOV/HOT, light rail, bus

30 points if terminal within one mile of project.

10 points if two or more terminals served.

# Urban Loop Pilot Prioritization Process (DRAFT)

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## Protected Right of Way (5%)

- Replaces “land use” factor
- If right of way already protected or purchased, project is closer to construction
  - No right of way protected or purchased 0 points
  - Right of way protected but none purchased 50 points
  - Right of way partially purchased 75 points
  - Right of way fully purchased or authorized 100 points

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## **Non-Loop Funding (20%)**

- Department desires to move projects to construction where use of loop funds can be supplanted/minimized
- Examples include but not limited to: tolling, TIFIA, GARVEE, innovative financing, non-loop funds, others?

**Caveat:** Limitations in G.S. 136-66 and 143B - No disadvantage to any other project in TIP

Points awarded based on commitment to use non-loop funds to supplant loop funds.

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## **Other Factors in Scheduling Projects**

- Build usable segments
- Avoiding lapse of planning documents and permits
- Status of project in Merger Process
- Consider homeland security and national defense as important factors
- Paying for cash flow projects under construction
- Applying funds to areas based on capacity of industry (including construction costs, inflation, volumes of work)

# Urban Loop Pilot Prioritization Process (DRAFT)

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- Department seeks comments on acceptance of these criteria by close of business February 26<sup>th</sup>
- Department will work with MPO staff to review data for input to model prior to running the model.
- Develop schedule of loop projects based on rankings.
- Urban Loop Prioritization Process completed by July 1<sup>st</sup>
- Questions?